PLANTERS' RECORD

A monthly paper devoted to the sugar interests of Hawaii, and issued by the Experiment Station for circulation among the plantations of the Hawaiian Sugar Planters' Association.

JULY

TO

DECEMBER

The Planters' Record

VOL. XXI.

H. P. AGEE Editor

H. L. LYON R. S. NORRIS OTTO H. SWEZEY J. A. VERRET

Associate Editors



ORGAN OF THE EXPERIMENT STATION OF THE HAWAIIAN SUGAR PLANTERS' ASSOCIATION

HONOLULU

1919



HAWAIIAN SUGAR PLANTERS' ASSOCIATION

OFFICERS FOR 1919

E. H.	WODEHOUSE					4													. ,	Pr	esid	ent
JOHN	WATERHOUSE		, ,														V.	ic	e.	-Pr	esid	ent
R. D.	MEAD							 ٠		. 1	Se	Cl	e	ta	ır;	y	a	nó	i	Tr	easu	rer
J. W.	WALDRON																			. 1	ludi	tor

TRUSTEES FOR 1919

E. F. BISHOP
A. W. T. BOTTOMLEY
J. M. DOWSETT
JOHN HIND
W. O. SMITH

E. D. TENNEY
J. W. WALDRON
JOHN WATERHOUSE
E. H. WODEHOUSE

EXPERIMENT STATION COMMITTEE

J. W. WALDRON, Chairman

A. GARTLEY C. R. HEMENWAY T. H. PETRIE G. P. WILCOX

J. N. S. WILLIAMS

D. A. MEEK, Secretary

EXPERIMENT STATION STAFF

EXPERIMENT STATIO	N STAFF
H. P. AGEE	. Director
R. C. L. PERKINS. OTTO H. SWEZEY. F. MUIR H. T. OSBORN P. H. TIMBERLAKE F. X. WILLIAMS C. E. PEMBERTON.	Entomologist Entomologist Assistant Entomologist Assistant Entomologist Assistant Entomologist
H. L. LYON. C. W. CARPENTER. E. L. CAUM. R. E. DOTY. ADOLF HOLM E. J. MOOKLAR. M. L. HARTMANN.	Associate Pathologist Assistant Pathologist Assistant in Cane Diseases Supt. Forest Nurseries Asst. in Pineapple Investigations
R. S. NORRIS. W. R. McALLEP A. BRODIE F. B. WERTHMUELLER L. L. LYNCH C. E. WARRINER H. A. WILSON. J. F. MELANPHY.	Acting Sugar Technologist Assistant Chemist Assistant Chemist Assistant Chemist Assistant Chemist Assistant Chemist
J. A. VERRET. R. S. THURSTON. R. M. ALLEN. Y. KUTSUNAI W. L. S. WILLIAMS. W. W. G. MOIR. R. PAHAU W. R. R. POTTER.	Associate Agriculturist Assistant Agriculturist Assistant Agriculturist Assistant Agriculturist Assistant Agriculturist Assistant Agriculturist Illustrator
W. P. ALEXANDER	
D. A. MEEK	. Chief Clerk

TABLE OF CONTENTS TO VOLUME XXI.

	age.
A Definition of Science	1
The Fear of Knowledge	1
A Preliminary Report on the Root-Rot Organism	2
A New Implement	3
Sugar Cane Moth Borer in Southeastern United States	9
Ensilage from Cane Tops	10
Results from Experiments in Australia	11
The Use of Phosphates	14
Root-Knot	15
Comparing Different Forms of Nitrogen	17
Varieties at Honokaa	20
Weed Control and Fertilization	24
Mud Press Cake Results at Paauhau	27
Hawaiian Seedlings in Australia and Barbados	30
Making Money from Bagasse	31
Progress Report of Chemical Research Department of the Louisiana Sugar	
Experiment Station for 1918	33
Keeping Soils Productive	48
The Normal Sugar Weight	55
A Consideration of Some Objections to the Proposed 20-Gram Scale	61
The Luce Cane Harvester	68
A Short Course for Plantation Men	71
Phosphoric Acid Experiments at Hakalau	72
Reverted Phosphate at Paauhau	80
Reverted Phosphate at Grove Farm	84
No Response from Nitrogen at Grove Farm	87
Fertilizer-Forms of Nitrogen	88
Fertilizer Versus No Fertilizer	91
Alkali Studies in Utah	95
Yellow Stripe Disease in the Argentine	96
An Immune Variety of Sugar Cane	96
A Method for Boiling Sugar	99
Cause of Scarcity of Seeds of the Koa Tree	102
Popilia Japonica, a Serious Pest Recently Introduced Into New Jersey	
from Japan	
Notes on Sugar Cane Culture in Java	109
Cane-Mill Work and Extraction Percentages	
Some New Phases of the Problem of Preventing Sugar Deterioration	130
Lubrication of Air Compressors	134
Plantation-Grown Stock Feed	142
The Deterioration of Cane After Cutting	145
Deterioration Following a Cane Fire	152
Wainaku Cultivation Experiments	153
Potash Shows Gain at Onomea	
Tractor Implements Used in Louisiana	165

	age.
Test of New Seedlings	166
Varieties at Paauhau	170
Varieties at Hawaiian Sugar Co	171
The Profitable Limit in Applying Nitrogen	171
Experiments in Electrical Stimulation of Crops	175
Fertilizer—One Versus Several Applications	177
Raw Juice Straining	179
The Manufacture of Bagasse Paper at Olaa Sugar Co. for Use in Mulch-	
ing Sugar Cane	181
Cuban Raw Sugars	187
Limestone Action on Acid Soils	191
Nitrate of Soda for Corn in the South	191
Irrigating Prior to Harvesting	193
Leafhopper Investigations on Hawaii	194
Deterioration of Cane After Cutting	222
Different Forms of Nitrogen	225
Forms of Nitrogen	228
Second Season Fertilization	230
Trash Conservation	234
Steam Sterilization of Soil Increases Germination	239
Mottling Disease or Mosaic of Sugar Cane	241
Hauling Cane by Motor Truck in Cuba	243
Growing Seedlings in Louisiana	244
A Scarifying Machine	246
American Cane Growers' Association in Sugar Cane Extension Work	247
Mosaic Disease Found in Cuba	251
Irrigating Plant Cane	253
Applying Water After Harvesting	.253
Fertilization—Plant Food Requirements	254
Seeding Low-Grade Massecuites	258
Artificial Distribution of Beneficial Ladybirds in California by the Ton	260
Some Temperature Experiments in Clarification	262
Seed from Plant, Ratoon, and Cut-back Cane	266
The Ash of Cane Juice	268
Fertilizer—Number of Applications	270
Island Feed for Plantation Livestock	273
Rice Straw Mulches for Sugar Cane	275
Determination of the True Dry Substance Content of Sugar Products	
Using Solution Factors	276
Chlorosis of Sugar Cane	279
The Phenomena of Fatigue Failure	280
The Single Deflection Method of Weighing	284
Some Observations on the Forest Problems of Hawaii	289
Report on Diffusion	301
Report on Fire-room Efficiency	304
Report of Committee on Clarification and Filtration	306

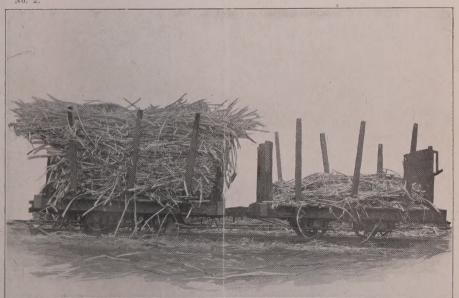
	P	age.
Points Observed in the Clarification System at Waialua		309
Report of Committee on Evaporation and Boiling		310
Result of Some Second Massecuite Experiments at Onomea		314
Crystallizers—Their Use		316
Some Data Concerning Low-grade Pan Work		319
Acidity and Inversion		322
Report of Committee on Curing and Marketing		324
Report of Committee on By-products		344
Acetone and Glycerine from Molasses		347
Report of Committee on Standardization		349
Electricity in the Sugar Mill		
The Loss in Sugar Between Field Cane Knives and the Mill		365
Report of Committee on Methods		370

ILLUSTRATIONS APPEARING ON THE COVERS OF VOLUME XXI



A typical example of root-rot in Lahaina cane is shown at the left in comparison with a resistant variety of cane at the right.

No. 2.



It Pays to Fertilize. The yields from a 1/30 acre plot at Waipio receiving 182 lbs. of nitrogen and an adjacent plot receiving no nitrogen.

No. 3.



Paper Mulching at Olaa. Covering edges of paper with trash; Unrolling paper over rateon stools; Fertilizing before laying paper.





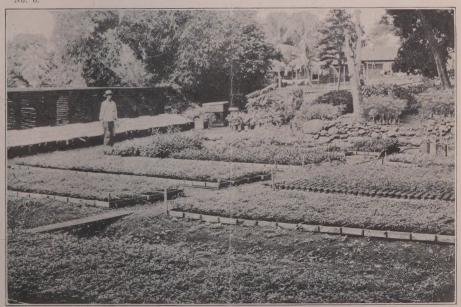
Leafhopper and one of its Parasites (Paranagrus) (both greatly enlarged).

I. B. E. No. 5.



H 109 growing between two of its seedlings that show some promise of upholding the record of the mother cane.

No. 6.



Nursery where forest tree seedlings are being propagated.

